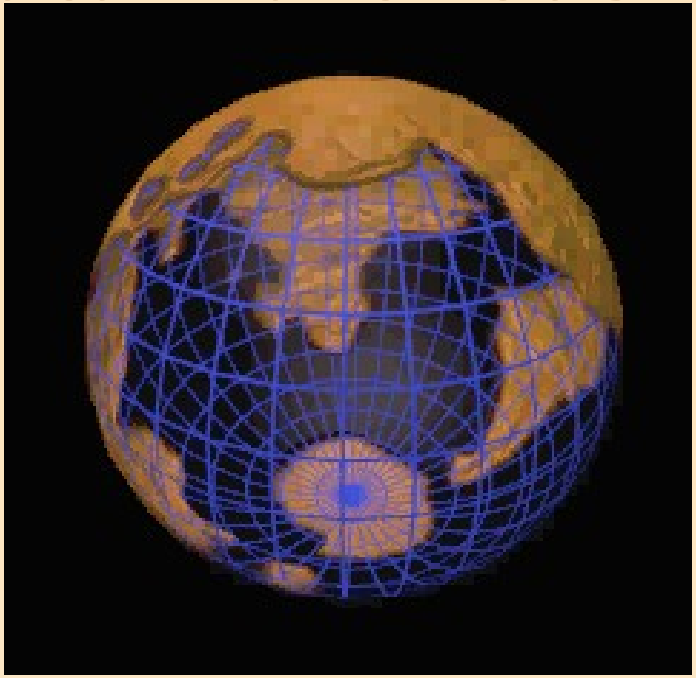
GIS and IFS

Product Integration and Data Warehousing



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Presentation Overview

- GIS Defined.
- Integrating GIS and IFS.
- Why Data Warehousing?
- Levels of Integration.

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GIS Defined

GIS is a digital mapping system used for exploration, demographic, dispatching and tracking.

This is existing technology.

GIS Defined
Software Components

- Spatial Data
- Descriptive Annotation
- Middleware Engine
- Graphical User Interface

GIS Defined
Software Components

- Spatial Data
- Desc ive
- Mid Engine

Spatial data is represented as 2-D or 3-D images and stored within the GIS.

The GIS will store the non-graphic data in database tables that are linked to the graphic elements. Storage of this data conforms to an government and industry standard called Tri-Services Spatial Data Standard (TSSDS).

GIS Defined

Software Components

- Spatial Data
- Descriptive Annotation
- Middlew
- G

The business definition of the spatial objects of the GIS.

The database of record remains IFS.

The actual storage of the GIS data will be controlle and managed by the Middleware Engine.

GIS Defined

Software Components

- Spatial Data
- De
- Middleware Engin
- Graph

Functions as a conversation or translation layer, such as software that sits between applications, networks, RDBMS, etc.

The mechanism over which the clients and servers communicate.

Two Components
Network Protocol
Data Warehouse

A database designed to support decision making in an organization.

GIS Defined

Software Components

- Spatial Data
- Descri
- Middl
- Graphical User Interface

This is a two way communications interfac

Will provide the ability to execute spatial que and receive related information not specifica addressed in the query.

The means by which the user will communicate to the computer.

GIS Defined

Potential End-Users of GIS

- Calendar Planners
- Community Activities
- Contract/In-house Maintenance Workers
- Emergency Services
- Environmental
- Facility/Housing Managers
- Fire Control
- Historical Society
- Information Management
- Installation Managers
- Master Planner
- Military Police
- Safety

and many more....

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Integrating GIS and IFS

Critical to the integration of GIS and

IFS is the sharing of the data.

Making IFS data available to the GIS.

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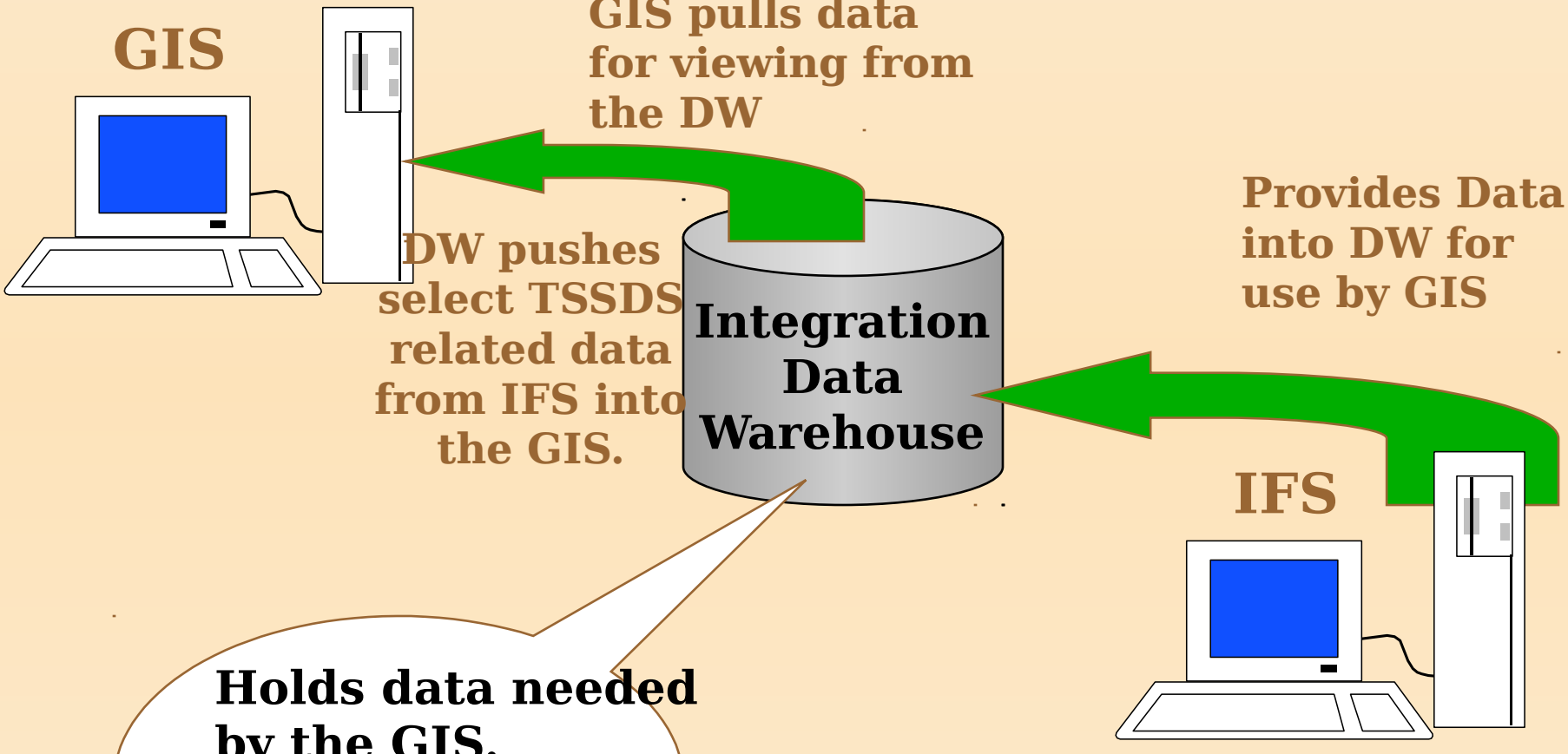
Integrating GIS and IFS

Points for Integration

- GIS utilizes a database structure to store descriptive text regarding the graphical map.
- IFS is the database of record for the description of the elements comprising and installation.

Integrating GIS and IFS



Why Data Warehousing?

What will data warehousing enable me to do?

What is data warehousing?

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Why Data Warehousing?

Data Warehousing Defined

A Warehouse is a subject-oriented operational data in a format that facilitates the retrieval of information for decision making

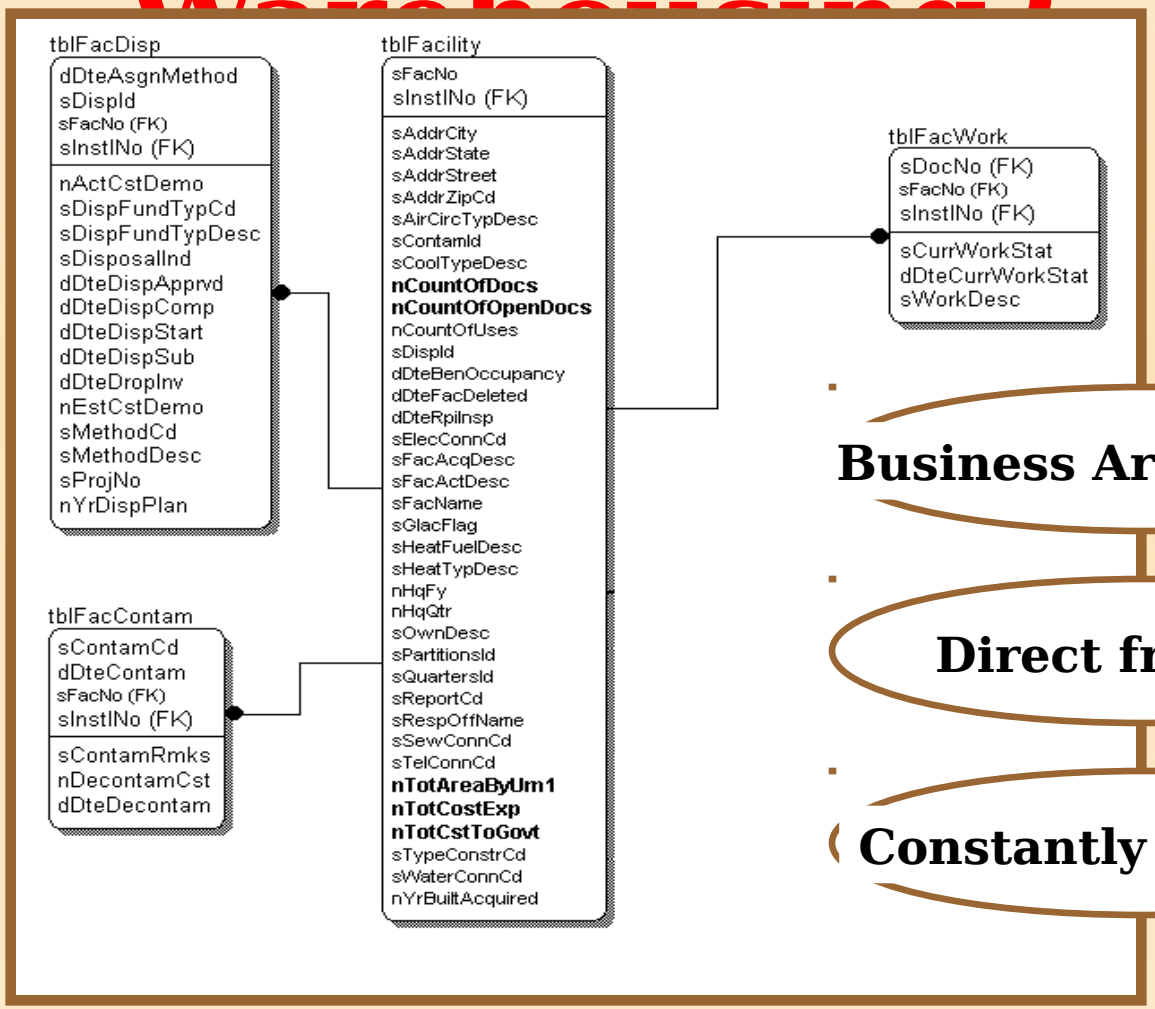
Store Computed Values

Store Repeating Groups

Store Descriptions

Simple Query Writing
Faster Data Retrieval

Why Data Warehousing?



Why Data Warehousing?

Data Warehousing Defined

Data Warehousing offers and efficient means of collecting large amounts of data from various sources and applying that data to other non-related sources.

Central Point of collection and distribution of data for operational systems.

Systems Integration versus Systems Interfacing

Why Data Warehousing?

Technical Architecture

- **Source** — Initially from IFS Client/Server
- **Transport** — Source and target databases are Oracle. DW will utilize SQL*Net as the protocol.
- **Destination** — Client/Server enabled Oracle database.
- **Metadata** — The what, where, when, and how of the dat to reside in the DW.
- **Access** — The first iterations will utilize Intergraph' MGE to get at the data.
- **Transformati** — The actual pull and computations on the da

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Enabling Features
Data Warehousing

- Integrates installation data from various
  other applications.
- Current IFS data available to external systems.
- Fast retrieval of installation information.
- Spatial Query Capability.

Enabling Features
Data Warehousing
Spatial Query Example

Where are my WWII facilities where the DPW has expended more than $5000 in maintenance?

The response from GIS will highlight the building images in a different color.

Enabling Features
Data Warehousing

Show the utility consumption by facility
for the last quarter and show the distribution of power as it relates
to buildings having a wood

This query would use information from a utility system in conjunction with IFS data retained in the DW.

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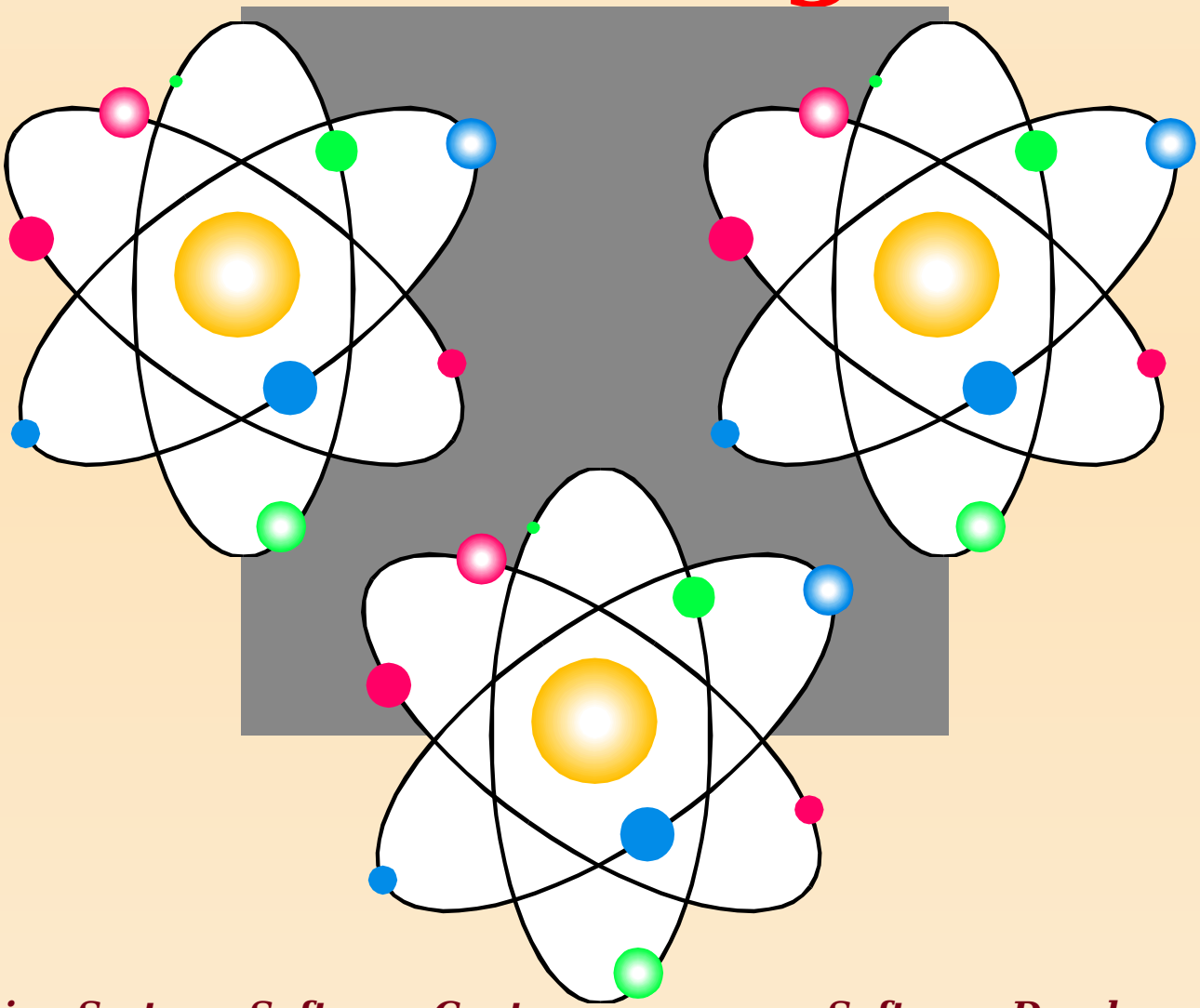
Levels of Integration



Levels of Integration

Level 1: IFS/TSSDS/MGE - Out of the box.

Level 2: Extend to other DPW departments outside the master planner with more functionality and easier access.

Level 3: Extend to non-engineering users of IFS data using a customized front-end.

Progression from one level to the next requires greater customization of the human-computer interface.

Levels of Integration

Level 1: IFS/TSSDS/MGE - Out of the box.

DPW

Will utilize master planning beta sites for initial content and feedback.

Ft. Belvoir an Ft. Benning have volunteered.

ter planner with more functionality and easier

Extends GIS to other departments within the DPW.

This requires that the GUI be more intuitive and user friendly.

eering users of

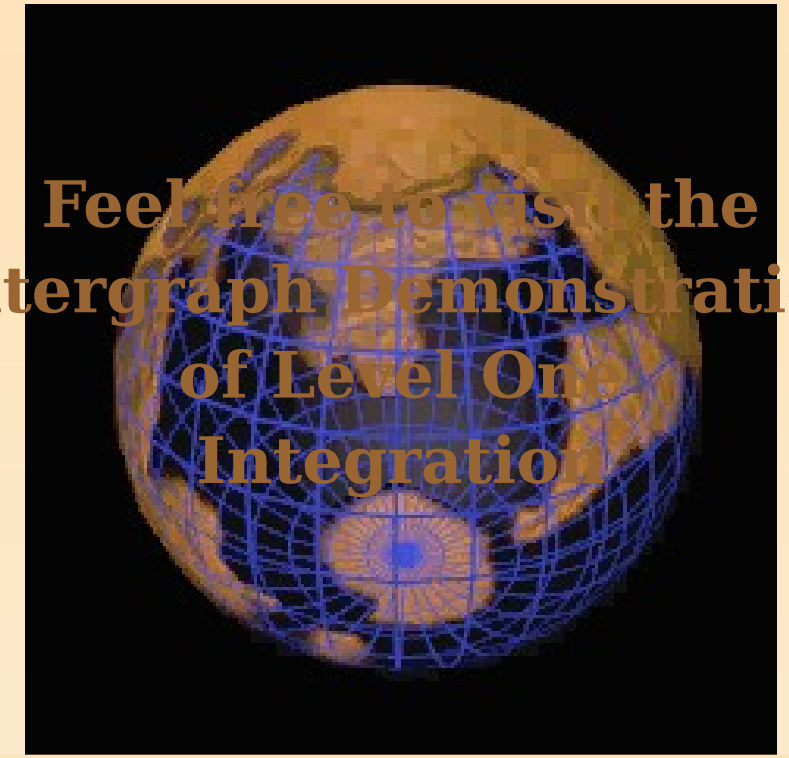
IFS data using a customized front-end.

Dissemination of a highly intuitive human-computer interface that incorporates DSS.

Extension to other agencies on the installation begins.

GIS and IFS

Product Integration and Data Warehousing



Feel free to visit the Intergraph Demonstration of Level One Integration

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